

**REMARKS**

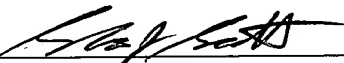
Claims 1-94 are pending in this application. Claims 1 and 27 have been amended to clarify the definition of variable R<sub>19</sub>. Claims 20 and 31-34 have been amended to avoid use of the word "preferable" in the claims. New claims 89-93 recite certain subject matter previously identified as "preferable" in claims 20 and 31-34. New claim 94 recites a compound exemplified at page 108, Example 7Z. None of the amendments have narrowed the scope of any claims.

Applicants have also added an Abstract of appropriate length.

If there is any fee due in connection with the filing of this Preliminary Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

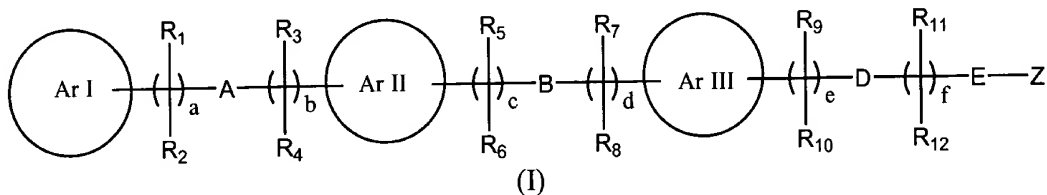
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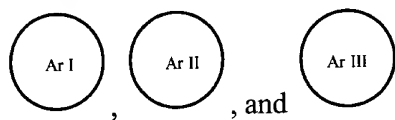
Date: February 25, 2002

**Appendix Detailing Amendments to Claims**

1. (Amended) A compound of formula I

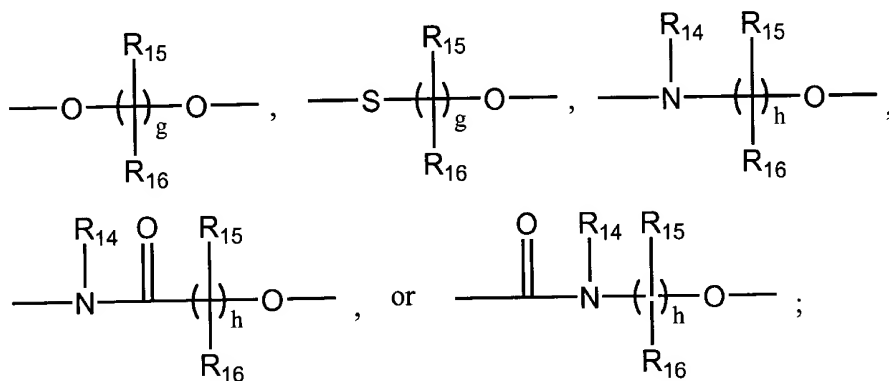


wherein:



, and are independently aryl, fused arylcycloalkenyl, fused arylcycloalkyl, fused arylheterocyclenyl, fused arylheterocyclyl, heteroaryl, fused heteroarylcyloalkenyl, fused heteroarylcyloalkyl, fused heteroarylheterocyclenyl, or fused heteroarylheterocyclyl;

A is -O-, -S-, -SO-, -SO<sub>2</sub>-, -NR<sub>13</sub>-, -C(O)-, -N(R<sub>14</sub>)C(O)-, -C(O)N(R<sub>15</sub>)-, -N(R<sub>14</sub>)C(O)N(R<sub>15</sub>)-, -C(R<sub>14</sub>)=N-, a chemical bond,



B is -O-, -S-, -SO-, -SO<sub>2</sub>-, -NR<sub>17</sub>-, a chemical bond, ethynylene, -C(O)-, -N(R<sub>18</sub>)C(O)-, or -C(O)NR<sub>18</sub>-;

D is -O-, -S-, -NR<sub>19</sub>-, a chemical bond, ethynylene, -N(R<sub>20</sub>)C(O)-, -C(O)-, or -C(O)N(R<sub>20</sub>)-;

E is a chemical bond or an ethylene group;

a is 0-4;

b is 0-4;

c is 0-4;

d is 0-5;

e is 0-4;

f is 0-6;

g is 1-4;

h is 1-4;

R<sub>1</sub>, R<sub>3</sub>, R<sub>5</sub>, R<sub>7</sub>, R<sub>9</sub>, and R<sub>11</sub>, are independently hydrogen, halogen, alkyl, carboxyl, alkoxy carbonyl or aralkyl;

R<sub>2</sub>, R<sub>4</sub>, R<sub>6</sub>, R<sub>8</sub>, R<sub>10</sub> and R<sub>12</sub>, are independently -(CH<sub>2</sub>)<sub>q</sub>-X;

q is 0-3;

X is hydrogen, halogen, alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, heteroaralkyl, hydroxy, alkoxy, aralkoxy, heteroaralkoxy, carboxyl,

alkoxy carbonyl, tetrazolyl, acyl, acylHNSO<sub>2</sub>-, -SR<sub>23</sub>, Y<sup>1</sup>Y<sup>2</sup>N- or Y<sup>3</sup>Y<sup>4</sup>NCO-;

Y<sup>1</sup> and Y<sup>2</sup> are independently hydrogen, alkyl, aryl, aralkyl or heteroaralkyl, or one of

Y<sup>1</sup> and Y<sup>2</sup> is hydrogen or alkyl and the other of Y<sup>1</sup> and Y<sup>2</sup> is acyl or aroyl;

Y<sup>3</sup> and Y<sup>4</sup> are independently hydrogen, alkyl, aryl, aralkyl or heteroaralkyl;

Z is R<sub>21</sub>O<sub>2</sub>C-, R<sub>21</sub>OC-, cyclo-imide, -CN, R<sub>21</sub>O<sub>2</sub>SHNCO-, R<sub>21</sub>O<sub>2</sub>SHN-, (R<sub>21</sub>)<sub>2</sub>NCO-, R<sub>21</sub>O- 2,4-thiazolidinedionyl, or tetrazolyl; and

[R<sub>19</sub> and ] R<sub>21</sub> is [are independently] hydrogen, alkyl, aryl, cycloalkyl, or aralkyl;

R<sub>13</sub>, R<sub>17</sub>, R<sub>19</sub> and R<sub>23</sub> are independently R<sub>22</sub>OC-, R<sub>22</sub>NHOC-, hydrogen, alkyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, heteroaralkyl, or aralkyl;

R<sub>14</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>18</sub> and R<sub>20</sub> are independently hydrogen, alkyl, aralkyl, carbonyl, or alkoxy carbonyl;

or R<sub>14</sub>, and R<sub>15</sub> taken together with the carbon and nitrogen atoms through which they are linked form a 5 or 6-membered azaheterocyclyl group; or

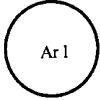
when a is 2-4, then vicinal R<sub>1</sub> radicals taken together with the carbon atoms to which the R<sub>1</sub> radicals are linked form an ethylene group; or

when b is 2-4, then vicinal R<sub>3</sub> radicals taken together with the carbon atoms to which the R<sub>3</sub> radicals are linked form an ethylene group; or

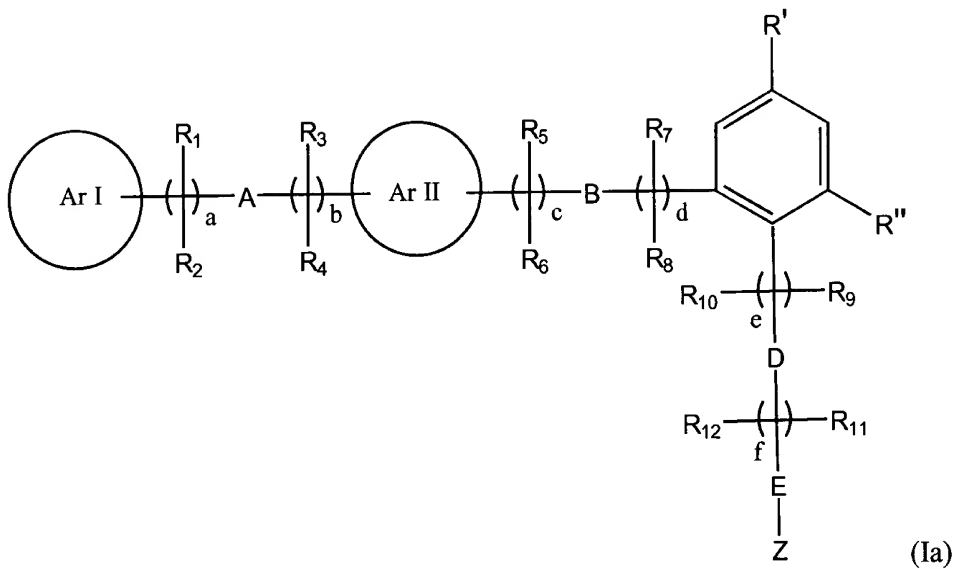
when c is 2-4, then vicinal R<sub>5</sub> radicals taken together with the carbon atoms to which the R<sub>5</sub> radicals are linked form an ethylene group; or

when d is 2-5, then vicinal R<sub>7</sub> radicals taken together with the carbon atoms to which the R<sub>7</sub> radicals are linked form an ethylene group; or

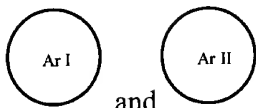
when e is 2-4, then vicinal R<sub>9</sub> radicals taken together with the carbon atoms to which the R<sub>9</sub> radicals are linked form an ethylene group; or  
when f is 2-6, then vicinal R<sub>11</sub> radicals taken together with the carbon atoms to which the R<sub>11</sub> radicals are linked form an ethylene group; and  
R<sub>22</sub> is hydrogen, alkyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, heteroaralkyl, or aralkyl; or  
a pharmaceutically acceptable salt thereof, an N-oxide thereof, a hydrate thereof or a solvate thereof.

20. (Amended) A compound according to claim 1 wherein  is an optionally substituted quinolinyl, quinoxalinyl, quinazolinyl, isoquinolinyl, *N*-alkyl-quinolin-4-onyl, quinazolin-4-onyl, benzoxazolyl, benzimidazolyl, benzothiazolyl, benzofuranyl, benzothiophenyl, indolinyl oxazolyl, thiazolyl, oxadiazolyl isoxazolyl, imidazolyl, pyrazol-yl, thiadiazolyl, triazolyl, pyridyl pyrimidinyl, pyrazinyl, pyridazinyl, phenyl, or naphthalenyl group, wherein the substituent is a ring system substituent [as defined herein, more preferably a substituent selected from the group consisting of phenyl, substituted-phenyl, thienyl, substituted thienyl, cycloalkyl, lower alkyl, branched alkyl, fluoro, chloro, alkoxy, aralkyloxy, trifluoromethyl and trifluoromethyloxy].

27. (Amended) A compound of formula (Ia)

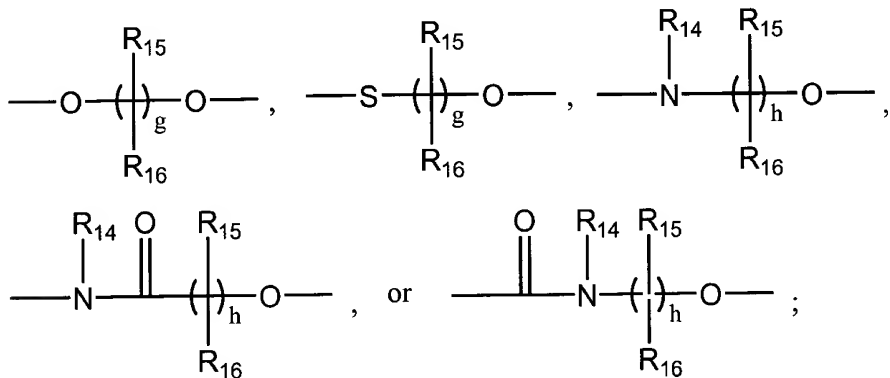


wherein:



and are independently aryl, fused arylcycloalkenyl, fused arylcycloalkyl, fused arylheterocyclenyl, fused arylheterocyclyl, heteroaryl, fused heteroaryl, fused heteroarylheterocyclenyl, fused heteroarylheterocyclyl, fused heteroarylheterocyclenyl, or fused heteroarylheterocyclyl;

A is -O-, -S-, -SO-, -SO<sub>2</sub>-, -NR<sub>13</sub>-, -C(O)-, -N(R<sub>14</sub>)C(O)-, -C(O)N(R<sub>15</sub>)-, -N(R<sub>14</sub>)C(O)N(R<sub>15</sub>)-, -C(R<sub>14</sub>)=N-, a chemical bond,



B is -O-, -S-, -SO-, -SO<sub>2</sub>-, -NR<sub>17</sub>-, a chemical bond, ethynylene, -C(O)-, -N(R<sub>18</sub>)C(O)-, or -C(O)NR<sub>18</sub>-;

D is -O-, -S-, -NR<sub>19</sub>-, a chemical bond, ethynylene, -N(R<sub>20</sub>)C(O)-, -C(O)-, or -C(O)N(R<sub>20</sub>)-;

E is a chemical bond or an ethylene group;

a is 0-4;

b is 0-4;

c is 0-4;

d is 0-5;

e is 0-4;

f is 0-6;

g is 1-4;

h is 1-4;

R<sub>1</sub>, R<sub>3</sub>, R<sub>5</sub>, R<sub>7</sub>, R<sub>9</sub>, and R<sub>11</sub>, are independently hydrogen, halogen, alkyl, carboxyl, alkoxy carbonyl or aralkyl;

R<sub>2</sub>, R<sub>4</sub>, R<sub>6</sub>, R<sub>8</sub>, R<sub>10</sub> and R<sub>12</sub>, are independently -(CH<sub>2</sub>)<sub>q</sub>-X;

q is 0-3;

X is hydrogen, halogen, alkyl, alkenyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, aralkyl, heteroaralkyl, hydroxy, alkoxy, aralkoxy, heteroaralkoxy, carboxyl,

alkoxy carbonyl, tetrazolyl, acyl, acylHNSO<sub>2</sub>-, -SR<sub>23</sub>, Y<sup>1</sup>Y<sup>2</sup>N- or Y<sup>3</sup>Y<sup>4</sup>NCO-;

Y<sup>1</sup> and Y<sup>2</sup> are independently hydrogen, alkyl, aryl, aralkyl or heteroaralkyl, or one of

Y<sup>1</sup> and Y<sup>2</sup> is hydrogen or alkyl and the other of Y<sup>1</sup> and Y<sup>2</sup> is acyl or aroyl;

Y<sup>3</sup> and Y<sup>4</sup> are independently hydrogen, alkyl, aryl, aralkyl or heteroaralkyl;

Z is R<sub>21</sub>O<sub>2</sub>C-, R<sub>21</sub>OC-, cyclo-imide, -CN, R<sub>21</sub>O<sub>2</sub>SHNCO-, R<sub>21</sub>O<sub>2</sub>SHN-, (R<sub>21</sub>)<sub>2</sub>NCO-, R<sub>21</sub>O- 2,4-thiazolidinedionyl, or tetrazolyl;

R' and R'' are ring system substituents;

[R<sub>19</sub> and] R<sub>21</sub> is [are independently] hydrogen, alkyl, aryl, cycloalkyl, or aralkyl;

R<sub>13</sub>, R<sub>17</sub>, R<sub>19</sub> and R<sub>23</sub> are independently R<sub>22</sub>OC-, R<sub>22</sub>NHOC-, hydrogen, alkyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, heteroaralkyl, or aralkyl;

R<sub>14</sub>, R<sub>15</sub>, R<sub>16</sub>, R<sub>18</sub> and R<sub>20</sub> are independently hydrogen, alkyl, aralkyl, carbonyl, or alkoxy carbonyl;

or R<sub>14</sub>, and R<sub>15</sub> taken together with the carbon and nitrogen atoms through which they are linked form a 5 or 6-membered azaheterocyclyl group; or

when a is 2-4, then vicinal R<sub>1</sub> radicals taken together with the carbon atoms to which the R<sub>1</sub> radicals are linked form an ethylene group; or

when b is 2-4, then vicinal R<sub>3</sub> radicals taken together with the carbon atoms to which the R<sub>3</sub> radicals are linked form an ethylene group; or  
when c is 2-4, then vicinal R<sub>5</sub> radicals taken together with the carbon atoms to which the R<sub>5</sub> radicals are linked form an ethylene group; or  
when d is 2-5, then vicinal R<sub>7</sub> radicals taken together with the carbon atoms to which the R<sub>7</sub> radicals are linked form an ethylene group; or  
when e is 2-4, then vicinal R<sub>9</sub> radicals taken together with the carbon atoms to which the R<sub>9</sub> radicals are linked form an ethylene group; or  
when f is 2-6, then vicinal R<sub>11</sub> radicals taken together with the carbon atoms to which the R<sub>11</sub> radicals are linked form an ethylene group; and  
R<sub>22</sub> is hydrogen, alkyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, heteroaralkyl, or aralkyl; or  
a pharmaceutically acceptable salt thereof, an N-oxide thereof, a hydrate thereof or a solvate thereof.

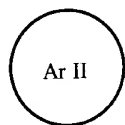
31. (Amended) A compound according to claim 27 wherein

a = 1 or 2;

A is -O-;

b = 0;

R<sub>1</sub>, R<sub>2</sub>, R<sub>7</sub> and R<sub>8</sub> are independently hydrogen;



is optionally substituted phenyl;

c = 0;

B is -O-;

d = 1;

e = 0;

f = 0;

D and E are a chemical bond;

R' is hydrogen, halo or benzyloxy;

R'' is lower alkyl [, preferably methyl];

Z is -CO<sub>2</sub>H.

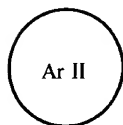
32. (Amended) A compound according to claim 27 wherein:

a = 1 or 2;

A is -O-;

b = 0;

R<sub>1</sub>, R<sub>2</sub>, R<sub>5</sub> and R<sub>6</sub> are independently hydrogen;



is optionally substituted phenyl;

c = 1;

B is -O-;

d = 0;

e = 0;

f = 0;

D and E are a chemical bond;

R' is hydrogen, halo or benzyloxy;

R" is lower alkyl [, preferably methyl];

Z is -CO<sub>2</sub>H.

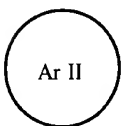
33. A compound according to claim 27 wherein:

a = 1 or 2;

A is -O-;

b = 0;

R<sub>1</sub>, R<sub>2</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>11</sub> and R<sub>12</sub> are independently hydrogen;



is optionally substituted phenyl;

c = 0;

B is -O-;

d = 1;

e = 0;



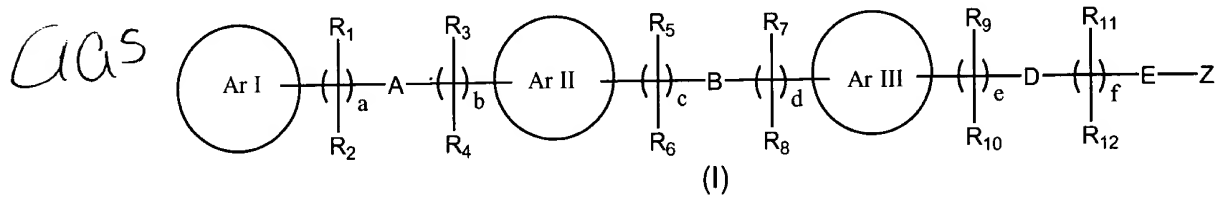
f = 1;  
D and E are a chemical bond;  
R' is halo;  
R'' is lower alkyl [, preferably methyl];  
Z is -CO<sub>2</sub>H.

34. (Amended) A compound according to claim 27 wherein:

a = 1;  
A is -O-;  
b = 0;  
c = 0-1;  
B is -O-;  
d = 0 or 1, wherein c+d = 1 or 2;  
e = 0;  
f = 0;  
D and E are a chemical bond;  
R' is hydrogen, aralkoxy, or halo;  
R'' is lower alkyl [, preferably methyl];  
Z is -CO<sub>2</sub>H.

Abstract

The use of triaryl acid derivatives of formula (I)



and their pharmaceutical compositions as PPAR ligand receptor binders. The PPAR ligand receptor binders of this invention are useful as agonists or antagonists of the PPAR receptor.